



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/606,730	06/29/2000	Paul C. Wilson	07072-105001	6692

22494 7590 02/05/2003

DALY, CROWLEY & MOFFORD, LLP  
SUITE 101  
275 TURNPIKE STREET  
CANTON, MA 02021-2310

EXAMINER

PUENTE, EMERSON C

ART UNIT	PAPER NUMBER
----------	--------------

2184

DATE MAILED: 02/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/606,730

Applicant(s)

WILSON ET AL.

Examiner

Emerson C Puente

Art Unit

2184

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 June 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9, 10, 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

1. Claims 1-6 have been examined.

### *Claim Objections*

2. Claims 1 and 4 objected to because of the following informalities:

Regarding claim 1, applicant discloses "the global cache memory"(line 6), which lacks antecedent basis.

Regarding claim 4, applicant discloses "the global cache memory"(line 14), which lacks antecedent basis.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by US Patent No. 5,819,054 of Ninomiya et al. referred hereinafter "Ninomiya".

Art Unit: 2184

In regards to claim 1, Ninomiya discloses a data storage system for transferring data between a host computer/server and a bank of disk drives through a system interface, such system interface comprising:

- a plurality of first directors coupled to the host computer/server (see figure 20 item 201 and column 1 lines 26-46);

- a plurality of second directors coupled to the bank of disk drives (see figure 20 item 202 and column 1 lines 26-46);

- a cache memory (see figure 20 item 203 and column 1 lines 26-46).

wherein there are separate point-to-point data paths between each one of the directors and the global cache memory (see figure 20 items 207, 208 and column 1 lines 26-46).

- a data transfer section coupled to the plurality of first directors, second directors, and cache memory (column 1 lines 26-46)

- a message network coupled to the plurality of directors and the plurality of second directors(see column 1 lines 41-46), such first and second directors controlling data transfer between the host computer and the bank of disk drives in response to messages passing between the directors through the messaging network as such data passes through the memory via the data transfer section (see column 1 lines 26-46).

In regards to claim 2 and 4, Ninomiya discloses a system including a backplane and wherein the cache memory and directors are interconnected through the backplane (see figure 8 and column 8 lines 29-30).

In regards to claim 3 and 6, Ninomiya discloses a system wherein the backplane is a printed circuit board (see figure 8 and lines 29-30).

5. Claims 1 are rejected under 35 U.S.C. § 102(e) as being clearly anticipated by US Patent No. 6,134,624 of Burns et al. referred hereinafter "Burns".

In regards to claim 1, Burns discloses a data storage system for transferring data between a host computer/server and a bank of disk drives through a system interface, such system interface comprising:

Art Unit: 2184

a plurality of first directors coupled to the host computer/server (see figure 2 item 46 and column 5 lines 41-50);

a plurality of second directors coupled to the bank of disk drives (see figure 2 item 46 and column 5 lines 41-50);

a cache memory (see figure 2 item 44).

wherein there are separate point-to-point data paths between each one of the directors and the global cache memory (see figure 2 item 48 and column 5 lines 55-57).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Ninomiya.

In regards to claim 1 and 3, Martin discloses a data storage system for transferring data between a host computer/server and a bank of disk drives through a system interface, such system interface comprising:

a plurality of first directors coupled to the host computer/server (see figure 1 items 14,16,18,19);

a plurality of second directors coupled to the bank of disk drives (see figure 1 item 48).

a data transfer section coupled to the plurality of first directors and the second directors (see figure 1 item 42) .

a message network coupled to the plurality of directors and the plurality of second directors(see figure 1 item 40 and column 7 lines 35-62), such first and second directors controlling data transfer between the host computer and the bank of disk drives in response to messages passing between the directors through the messaging network as such data passes through the memory via the data transfer section (see column 7 lines 63-68 and column 8 lines 1-18).

However, Martin fails to disclose a system interface comprising:

a cache memory ;

a data transfer section coupled to the cache memory;

wherein there are separate point-to-point data paths between each one of the directors and the global cache memory.

Ninomiya discloses a system interface comprising:

a cache memory (see figure 20 item 203 and column 1 lines 26-46).

a data transfer section coupled to the plurality of first directors, second directors, and cache memory (column 1 lines 26-46)

wherein there are separate point-to-point data paths between each one of the directors and the global cache memory (see figure 20 items 207, 208 and column 1 lines 26-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Martin such that the system interface comprises of a cache memory. A person of ordinary skill in the art would have been motivated to make the modification to Martin because Martin discloses a data storage retrieval system and having a cache memory, as per teachings of Ninomiya, would faster reading and writing of data.

In regards to claim 2 and 4, Ninomiya discloses a system including a backplane and wherein the cache memory and directors are interconnected through the backplane (see figure 8 and column 8 lines 29-30).

In regards to claim 3 and 6, Ninomiya discloses a system wherein the backplane is a printed circuit board (see figure 8 and lines 29-30).

Art Unit: 2184

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See Form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Emerson Puente, whose telephone number is (703) 305-8012. The examiner can normally be reached on Monday-Friday from 8:00AM- 5:00PM, first Fridays off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Robert Beausoliel*, can be reached on (703) 305-9713 or via e-mail addressed to [*robert.beausoliel@uspto.gov*]. The fax number for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**emerson.puente@uspto.gov**].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 305-3900.

*Emerson Puente*  
1/30/03

  
**ROBERT BEAUSOLIEL**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**